

Figure 1 Surface Model and Observation System

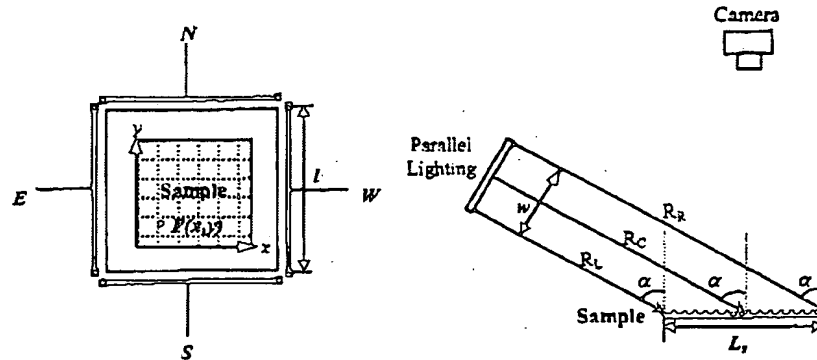


Figure 2 Lighting System

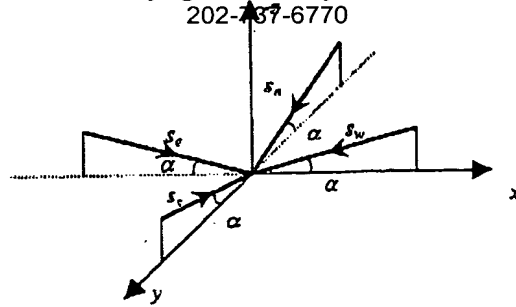


Fig.3 Four direction lighting vectors

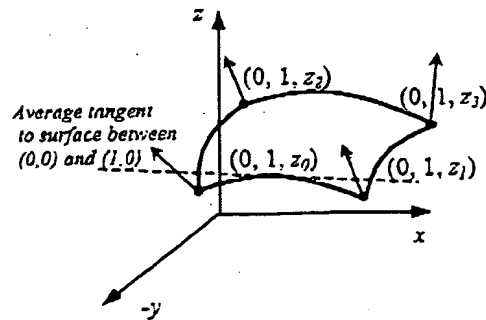


Fig.4 Surface patch and normal vectors

Approximation to surface between points (0,0) and (1,0) can be made by using the average tangent line if points are sufficiently close.

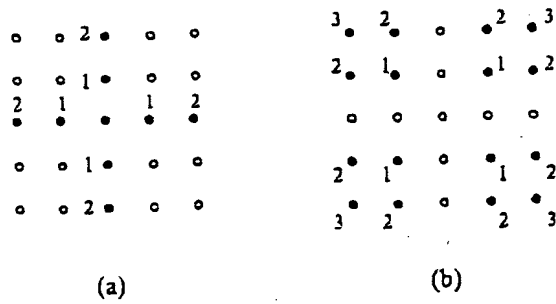


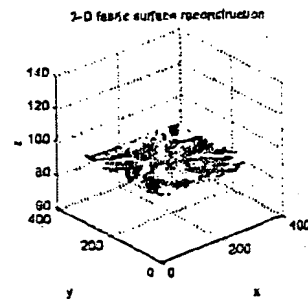
Figure 5 Illustration of depth conversion order for points on the object's surface.  
 (a) Initially,  $z$  values along the axes are calculated which is illustrated numerically.  
 (b) After  $z$  values are established along the axes,  $z$  values are computed for points in each quadrant in column major order as illustrated.



(a) Camera Acquired  
Fabric Image

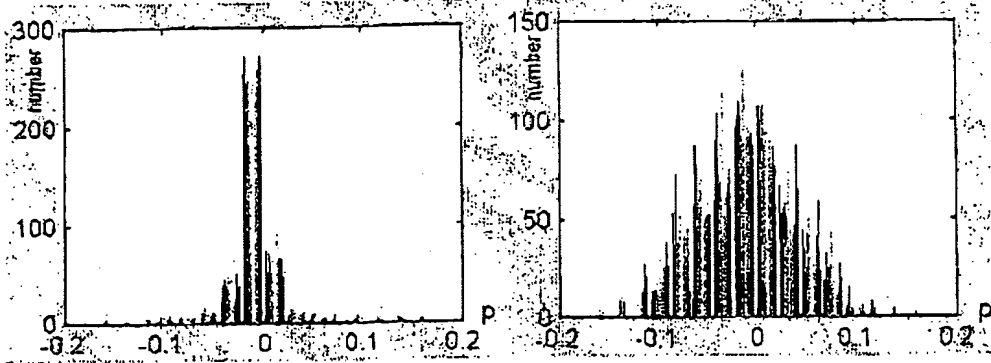


(b) Revealed Surface Image



(c) 3-D Image of Fabric

Figure 6 Fabric Surface Reconstruction



(a) Grade 5

(b) Grade 1

Figure 7 Distribution of  $p$

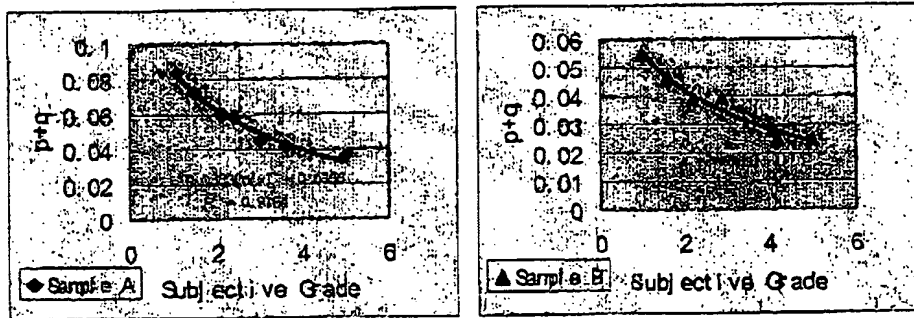


Figure 8

Title: Three Dimensional Measurement, Evaluation And Grading System For Fabric/Textile Structure/  
Garment Appearance

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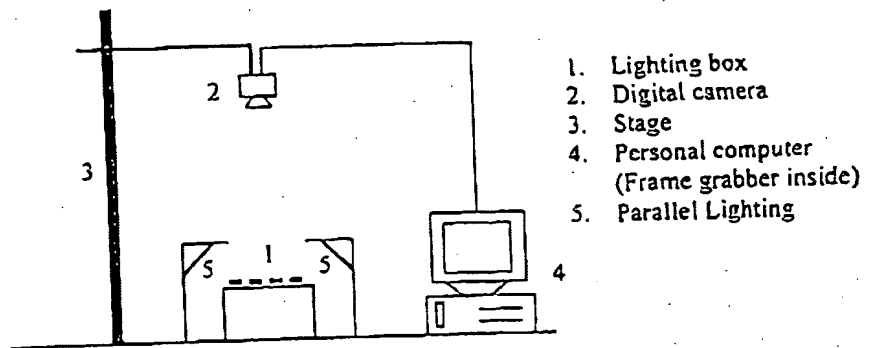


Figure 9